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Patent
259/163

#5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Patrick N. Gilles et al.

Serial No.: 09/727,030

Filed: November 30, 2000

For: SINGLE NUCLEOTIDE
POLYMORPHIC DISCRIMINATION BY
ELECTRONIC DOT BLOT ASSAY ON
SEMICONDUCTOR MICROCHIPS

Group Art Unit: Not yet assigned

Examiner: Not yet assigned

INFORMATION DISCLOSURE STATEMENT

Box Non-Fee
Commissioner for Patents
Washington, D.C. 20231

Sir:

Pursuant to 37 C.F.R. §1.56 and in accordance with 37 C.F.R. §§1.97-1.98, information relating to the above-identified application is hereby disclosed. The accompanying Form PTO-1449 provides a listing of documents that may be relevant to the subject application.

It is requested that the Examiner fully consider the art cited in the accompanying Form 1449, initial the left-most column of the form adjacent each cited reference, and return a copy for

OC-75342.1

CERTIFICATE OF MAILING
(37 C.F.R. §1.10)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as 'Express Mail Post Office To Addressee' in an envelope addressed to the Commissioner for Patents, Washington, D.C. 20231.

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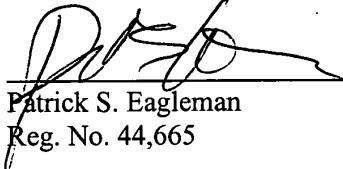
Applicants' records. It is further requested that the art be cited on the cover of any patent issuing from the subject application.

In accordance with §1.97(d), this Information Disclosure Statement is being filed before the mailing of a first Office Action on the merits of the above-identified application, and therefore no fee is required. If a first Office Action has been mailed, then please enter this Information Disclosure Statement and charge Lyon & Lyon's Deposit Account No. **12-2475** for any necessary fees.

This statement should not be construed as a representation that more material information does not exist or that an exhaustive search of the relevant art has been made. Nor does this statement constitute an admission by Applicants or Applicants' agent that the information provided herein is necessarily prior art to Applicants' invention. Moreover, Applicants reserve the right to establish the patentability of the claimed invention over any of the listed documents should they be applied thereagainst as references.

Respectfully submitted,

LYON & LYON LLP

By: 
Patrick S. Eagleman
Reg. No. 44,665

Dated: February 28, 2001

PSE/ktl

633 West Fifth Street, Suite 4700
Los Angeles, California 90071-2066
(949) 567-2300

Enclosures: 36 Prior Art References

LIST OF PATENTS AND OTHER DOCUMENTS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT
(Use several sheets if necessary)

ATTY. DOCKET NO. 259/163
APPLN. NO. Patrick J. Gilles, et al.
FILING DATE: 11/30/2000

SERIAL NO.
09/727,030

GROUP:
Not Yet Assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILED
AA	3,950,738	4/1976	Hayashi et al.			
AB	3,995,190	11/1976	Salgo			
AC	4,283,773	8/1981	Doughton et al.			
AD	4,563,419	1/1986	Ranki, et al.			
AE	4,580,895	4/1986	Patel			
AF	4,584,075	4/1986	Goldstein et al.			
AG	4,594,135	6/1986	Goldstein			
AH	4,751,177	6/1988	Stabinsky			
AI	4,787,963	11/1988	MacConnell			
AJ	4,807,161	2/1989	Comfort et al.			
AK	4,816,418	3/1989	Mack et al.			
AL	4,822,566	4/1989	Newman			
AM	4,828,979	5/1989	Klevan et al.			
AN	4,908,112	3/1990	Pace			
AO	5,063,081	11/1991	Cozzette et al.			
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AV	5,143,854	9/1992	Pirrung et al.			
AW	5,164,319	11/1992	Hafemann et al.			

DATE CONSIDERED:

OC-75187.1 EXAMINER:

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609;
Draw line through citation if not in conformance and not considered. Include a copy of this form with next
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Information Disclosure Statement - Section 9 PTO-1449

LIST OF PATENTS AND OTHER REFERENCES FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.
259/163SERIAL NO.
09/727,030APPLICANT
Patrick N. Gilles, et al.FILING DATE:
11/30/2000GROUP:
Not Yet Assigned

	AX	5,166,063 ✓	11/1992	Johnson				
	AY	5,200,051 ✓	4/1993	Cozzette et al.				
	AZ	5,202,231 —	4/1993	Drmanac et al.				
	BA	5,219,726 ✓	6/1993	Evans				
	BB	5,227,265 ✓	7/1993	DeBoer et al.				
	BC	5,234,566 ✓	8/1993	Osman et al.				
	BD	5,242,797 ✓	9/1993	Hirschfeld				
	BE	5,304,487 ✓	4/1994	Wilding et al.				
	BF	5,312,527 ✓	5/1994	Mikkelsen et al.				
	BG	5,433,819 ✓	7, 1995	McMeen				
	BH	5,434,049 ✓	7/1995	Okano et al.				
	BI	5,436,129 ✓	7/1995	Stapleton				
	BJ	5,445,525 ✓	9/1995	Broadbent et al.				
	BK	5,464,517 ✓	11/1995	Hjertén et al.				
	BL	5,468,646 ✓	11/1995	Mattingly et al.				
	BM	5,516,698 ✓	5/1996	Begg et al.				
	BN	5,527,670 ✓	6/1996	Stanley				
	BO	5,552,270 ✓	9/1996	Khrapko et al.				
	BP	5,593,838 ✓	1/1997	Zanzucchi et al.				
	BQ	5,605,662 ✓	2/1997	Heller et al.				
	BR	5,632,957 ✓	5/1997	Heller et al.				
	BS	5,653,939 ✓	8/5/1997	Hollis et al.				
	BT	5,660,701 ✓	8/26/1997	Grushka et al.				
	BU	5,681,751 ✓	10/1997	Begg et al.				
	BV	5,750,015 ✓	5/1998	Soane et al.				

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LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S
INFORMATION DISCLOSURE STATEMENT

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APPLICANT:

Patrick N. Gilles, et al.

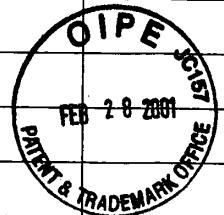
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	BW	5,770,365	6/1998	Lane et al.			
	BX	5,780,233	7/1998	Guo et al.			
	BY	5,849,489	12/1998	Heller			
	BZ	5,853,993	12/1998	Dellinger et al.			
	CA	6,013,166	1/2000	Heller			
	CB	6,017,696	1/2000	Heller			
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	CE	6,068,818	5/2000	Ackley et al.			
	CF	6,099,803	8/2000	Ackley et al.			
	CG	6,071,394	6/2000	Cheng et al.			
	CH	6,129,828	10/2000	Sheldon, III et al.			



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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES	TRANSLATION NO
	CI	0228075	8/1987	EP (Dattagupa et al.)				
	CJ	2247889	3/1992	GB (Stanley)				
	CK	WO95/07363	3/1995	PCT (Konard)				
	CL	WO90/01564	2/1990	PCT (Adams et al.)				
	CM	WO89/01159	2/1989	PCT (Cornell et al.)				
	CN	WO93/22678	11/1993	PCT (Hollis)				
	CO	WO86/03782	7/1986	PCT (Malcom et al.)				
	CP	WO 89/10977	11/1989	PCT (Southern)				
	CQ	WO88/08528	11/1988	PCT (Stanbro, et al.)				
	CR	WO92/04470	3/1992	PCT (Stanley)				

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	CS	WO98/28444	7/1998	PCT (Mirzabekov, et al.)				
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	CU	WO98/51819	9/1999	PCT Sosnowski				
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	CX	WO 98/10277	3/1998	PCT (Sheldon)				
	CY	WO 99/42558	8/1999	PCT (Ackley, et al.)				
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	DC	WO 99/29711	6/1999	PCT (Sosnowski et al.)				
	DD	WO 00/37163	6/2000	PCT (Cheng, et al.)				
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	DG	WO 98/24544	6/1998	PCT (Ackley, et al.)				
	DH	WO 99/43853	9/1999	PCT (Sosnowski)				
	DI	2156074	10/1985	UK (Palva et al.)				
	DJ	57087	87	Yugoslavia (Drmanac)				



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DK	Anand and Southern "Pulsed Field Gel Electrophoresis," <u>Gel Electrophoresis of Nucleic Acids - A Practical Approach</u> , 2d. ed., D. Rickwood and B.D. Hames (new York: IRL Press 1990), pp. 101-123
DL	Anderson and Young, "Quantitative Filter Hybridization," <u>Nucleic Acid Hybridization - A Practical Approach</u> , Eds. B.D. Hames and S.J. Higgins (Washington, D.C.: IRL Press 1985) pp. 73-111
DM	Bains, "Setting a Sequence to Sequence a Sequence," <u>Bio/Technology</u> , 10:757-758 (1992)
DN	Barinaga, "Will 'DNA Chip' Speed Genome Initiative?", <u>Science</u> , 253:1489 (1991)
DO	Beattie et al., "Genosensor Technology," <u>The 1992 San Diego Conference: Genetic Recognition</u> , pp 1-5 (Nov. 1992)

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FEB 28 2001

	DP	Beltz et al., "Isolation of Multigene Families and Determination of Homologies by Filter Hybridization Methods," <u>Methods in Enzymology</u> , 100:266-285 (1983)
	DQ	Brown et al. "Electrochemically Induced Adsorption of Radio-Labelled DNA on Gold and HOPG Substrates for STM Investigations." <u>Ultramicroscopy</u> , 38 1991, 253-264
	DR	Conner et al., "Detection of Sickel Cell β^3 -Globin Allele By HybridizationWith Synthetic Oligonucleotides," <u>Proc. Natl. Acad. Sci. USA</u> , 80:278-282 (1983)
	DS	Drmanac et al., "Sequence of Magabase Plus DNA by Hybridization : Theory of the Method," <u>Genomics</u> , 4:114-128 (1989)
	DT	Drmanac et al., "DNA Sequence Determination by Hybridixation: A Strategy for Efficient Large-Scale Sequencing," <u>Science</u> , 260: 1649-1652 (1993)
	DU	Eggers et al. "Biochip Technology Development," BioChip Technology Development, Lincoln Laboratory Technical Report 901, Nov. 9, 1990
	DV	Fodor et al., "Multiplexed Biochemical Assays With Biological Chips," <u>Nature</u> , 364:555-556 (1993)
	DW	Fodor et al., "Light-Directed, Spatially Addressable parallel Chemical Synthesis," <u>Science</u> , 251: 767-773 (1992)
	DX	Gills, et al. "Single nucleotide polymorphic discrimination by an electronic dot blot assay on semiconductor microchips" <u>Nature Biotechnology</u> Vol 17 April 1999 pp 365-370
	DY	Gryaznov et al. "Enhancement of selectivity in recognition of nucleic acids via chemical autoligation," <u>Nucleic Acids Research</u> , 1994, Vol. 22 No. 12 pp 2366-2369 (1994 University Press)
	DZ	Horejsi, "Some Theoretical Aspects of Affinity Electrophoresis," <u>Journal of Chromatography</u> , 178:1-13 (1979)
	EA	Horejsi et al., "Determination of Dissociation Constants of Lectin Sugar Complexes by Means of Affinity Electrophoresis, <u>Biochimica et Biophysica Acta</u> , 499:200-300 (1977)
	EB	Kakerow et al., "A Monolithic Sensor Array of Individually Addressable Microelectrodes," <u>Sensors and Actuators A</u> , 43 (1994) 296-301
	EC	Mathews, Kricka. "Analytical Strategies For The Use of DNA Probes." <u>Analytical Biochemistry</u> , 169, 1988, 1-25
	ED	Palecek. "New Trends in Electrochemical Analysis of Nucleic Acids." <u>Bioelectrochemistry and Bioenergetics</u> , 20, 1988, 179-194
	EE	Ranki et al., "Sandwhich Hybridization as a Convenient Method for the Detection of Nucleic Acids in Crude Samples," <u>Gene</u> , 21:77-85 (1983)
	EF	Saiki, "Amplification of Genomic DNA," <u>PCR Protocols: A Guide to Methods and Applications</u> , (Academic Press, Inc. 1990), pp 13-20
	EG	Southern et al., "Analyzing and Comparing Nucleic Acid Sequences by Hybridization to Arrays of Oligonucleotides Evaluation Using Experimental Models," <u>Genomics</u> , 13:1008-1017 (1992)
	EH	Sosnowski et al. "Rapid determination of single base mismatch mutations in DNA hybrids by direct electric field control," <u>Proc. Natl. Acad. Sci. USA</u> Vol. 94, pp. 1119-1123, February 1997 <u>Biochemistry</u>
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	EJ	Wallace et al., "Hybridization of Synthetic Oligodexribonucleotides to ϕ x 174 DNA: The Effect of Single Base Pair Mismatch," <u>Nucleic Acid Res.</u> , 6:3543-3557 (1979)
	EK	Washizu, "Electrostatic Manipulation of Biological Objects," <u>Journal of Electrostatics</u> , 25:109-123 (1990)
	EL	Washizu and Kurosawa, "Electrostatic Manipulation of DNA in Microfabricated Structures," <u>IEEE Transactions on Industry Applications</u> , 26:1165-1172 (1990)

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